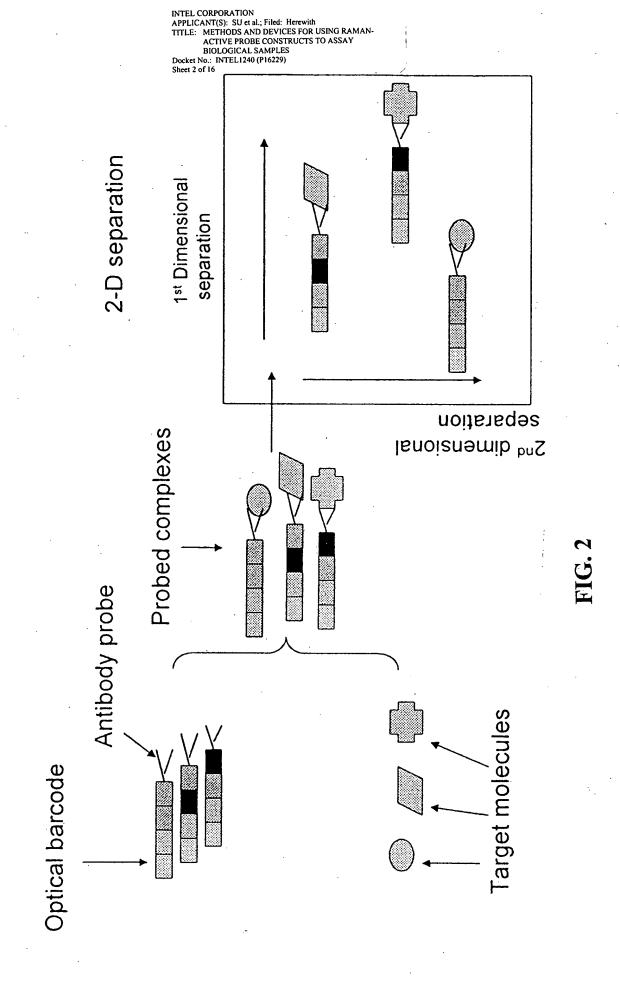


FIG. ]



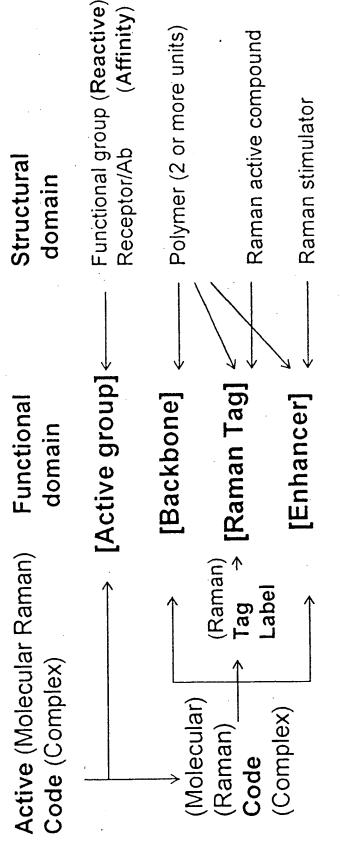


FIG. 3

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## Raman (SERS) Spectra

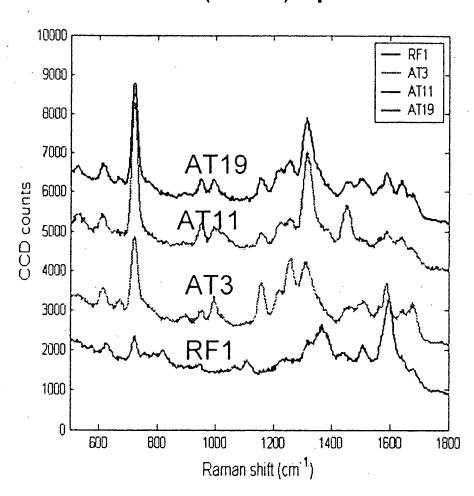


FIG. 4

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## Raman (SERS) Spectra

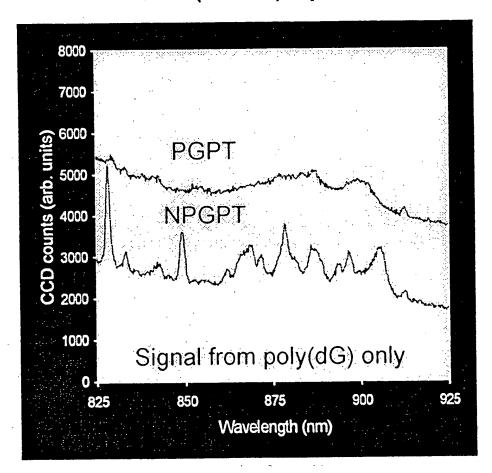


FIG. 5

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## Raman (SERS) Spectra

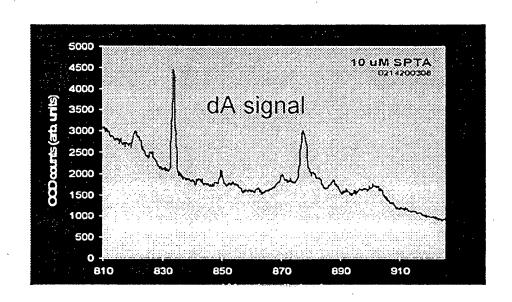


FIG. 6A

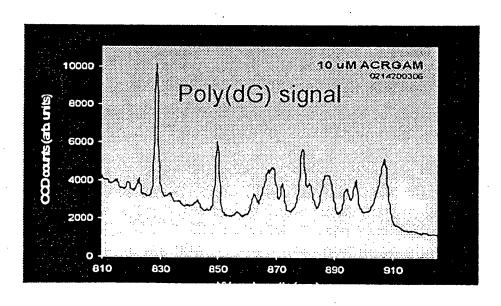
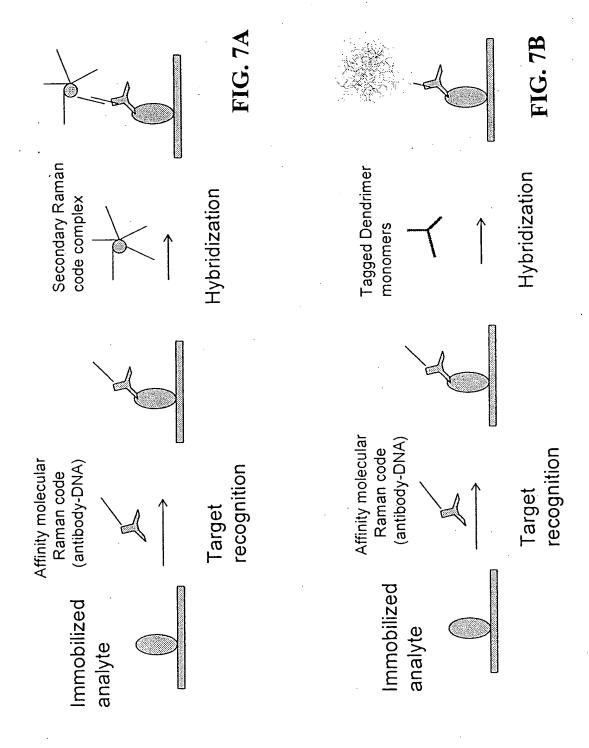
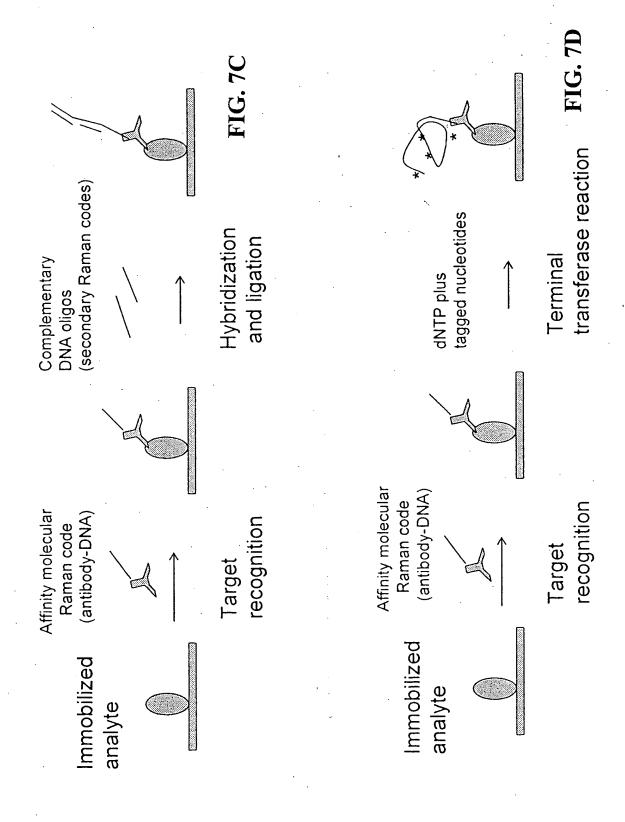


FIG. 6B

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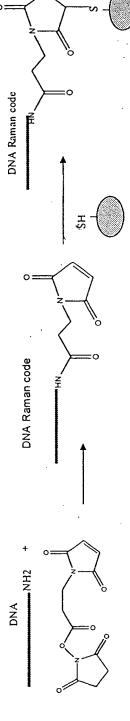


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## With Acrydite DNA Raman Code

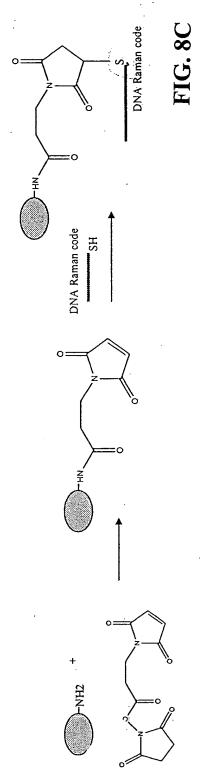
With Amino DNA Raman Code



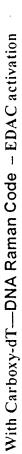
(N-succinimidyl-4-inaleimidobutyrate)

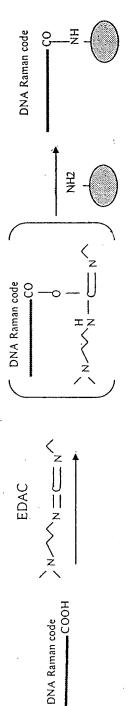
FIG. 8B

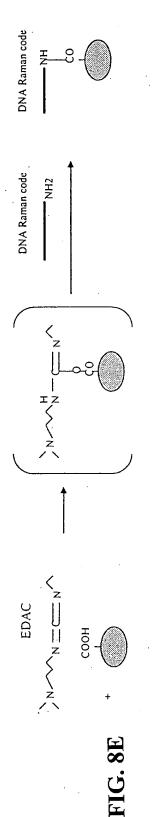
# With Thiol DNA Raman Code - Maleimide activation



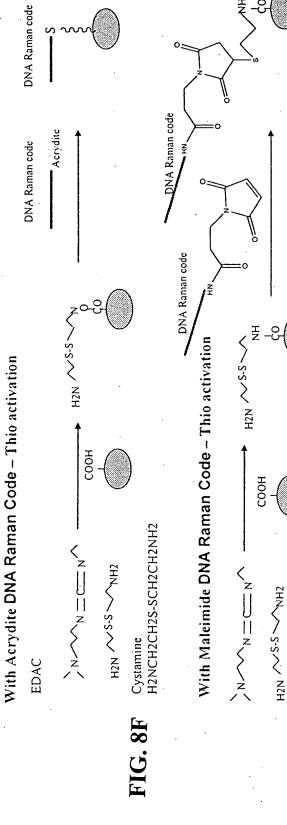
(N-succinimidyl-4-maleimidobutyrate)



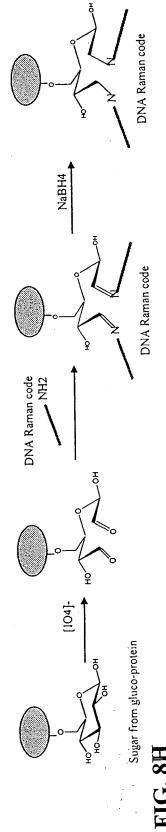




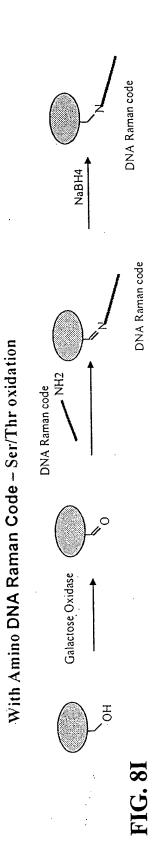
With Amino DNA Raman Code - EDAC activation



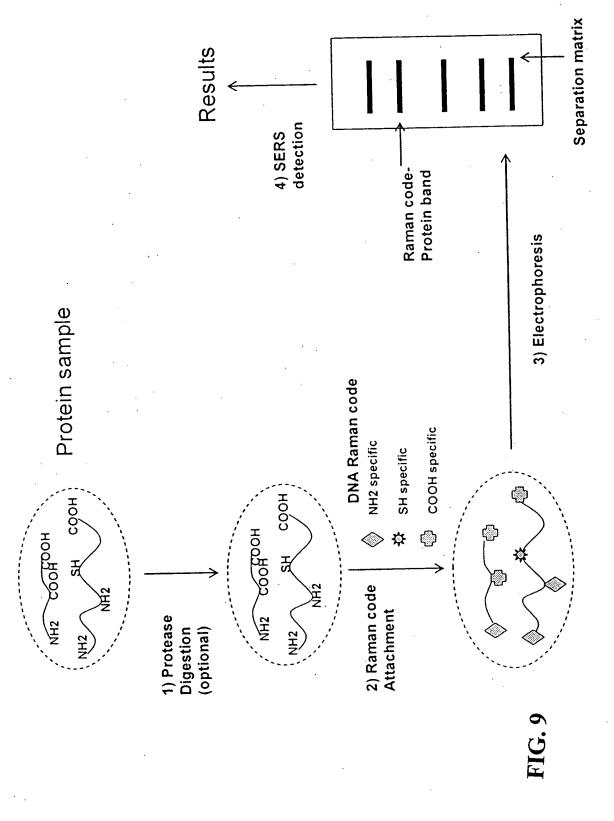
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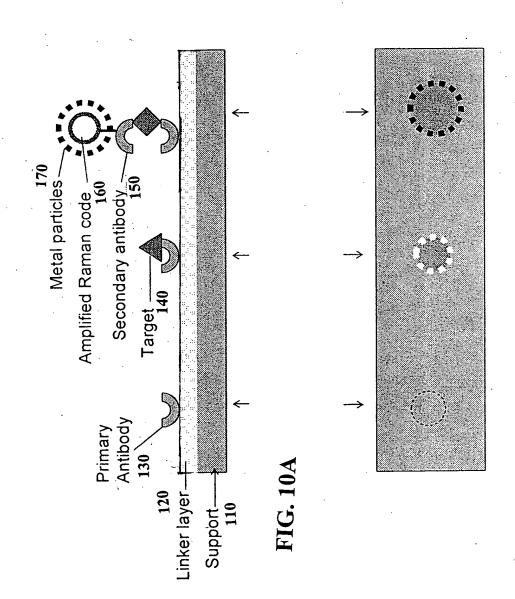


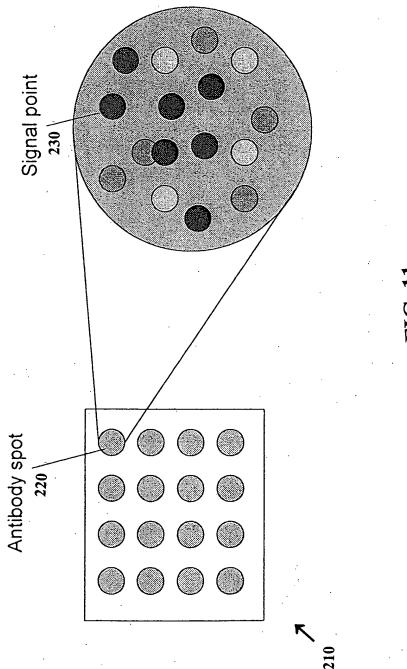
With Amino DNA Raman Code - sugar oxidation



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BIOLOGICAL SAMPLES Docket No.: INTEL1240 (P16229) Sheet 16 of 16 Raman signatures for corresponding SERS detection Binding by 1 affinity Raman code each spot pair Add Raman codes to subsets of the same or different Antibody pool and compare or different affinity Raman codes Repeat with different Ab arrays i.e. 3x3 Abs with 3 only 3 Raman codes to form subsets of affinity Raman codes have the same Raman codes Different abs can Raman codes Binding by Affinity Binding by 2 affinity Raman codes sample (or phage displayed peptides) Test Antibody array Sample Binding Antibody pool one or a group sample Control of Abs

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